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(71) Applicant (for all designated States except US): **AWAP-
ATENT AB [SE/SE]; Bellevuevägen 46, S-200 71 Malmö
(SE).**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BENGTSSON,
Svante [SE/SE]; St Knuts väg 4a, S-211 57 Malmö (SE).
BUNKE, Christian [SE/SE]; Möllenvångsvägen 10, S-222
40 Lund (SE).**

(74) Common Representative: **AWAPATENT AB; Box 5117,
S-200 71 Malmö (SE).**

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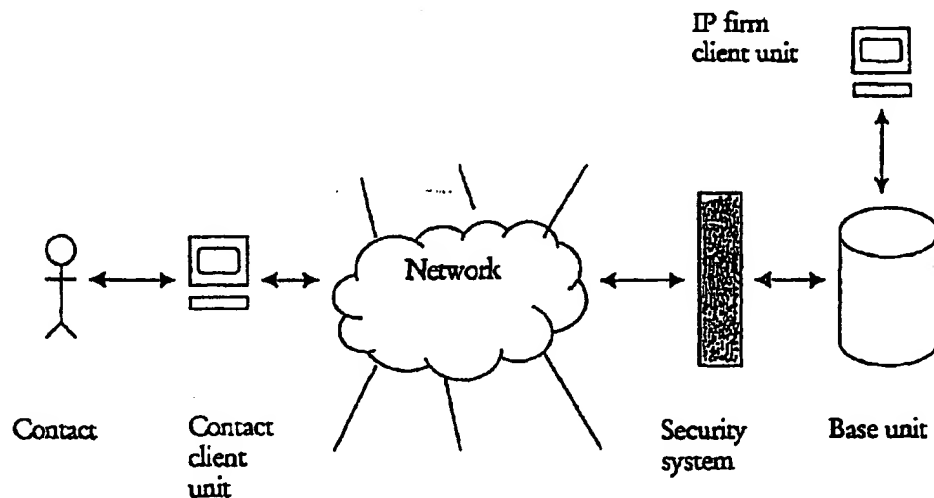
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(54) Title: **A COMPUTER SYSTEM FOR STORING, UPDATING AND SEARCHING INFORMATION IN A DATABASE THAT CAN BE ACCESSED BY DIFFERENT USERS**



(57) Abstract: The invention relates to a system and a method for handling information between a firm of consultants and at least one of its contacts. The system comprises a contact client unit and a firm client unit, which are arranged to be connected via a network, such as the Internet, to a base unit. A security system is arranged between the contact client unit and the base unit to provide a secure connection between them. The base unit has contact-specific case information stored, which is directly modifiable by the firm as well as the contact, and the base unit has a searchable contact-specific database which e.g. contains intellectual property information.

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A computer system for storing, updating and searching information in a database that can be accessed by different users.

Cross-reference to related applications This application claims the benefit of US Provisional Application No. 60/231 325 filed September 08, 2000 and Swedish Application No. 0001550-3 filed April 27, 2000, all of which are incorporated herein by reference.

Technical Field The present invention relates to a system and a method for handling information between a firm of consultants, such as an intellectual property firm (IP- firm), and its contacts.

Technical Background For instance, when preparing a patent application the communication between an applicant and the firm is intense. The communication may consist in elucidating questions, sending supporting documents, receiving proposals, etc and is often transferred by ordinary mail or by courier, i. e. in paper form. This easily results in large quantities of paper documents which can be difficult to keep in good order for the parties involved.

Documents may easily get lost or be left in places where unauthorised people can easily get access to the information which is contained in the documents and which is often secret and of crucial importance to the business activities. Furthermore, it is hard to coordinate all the documents concerning a certain case and related cases, since an applicant more often than not has many cases, which in addition may run in parallel. As a result, it is difficult for the applicant to get a satisfying overview of his portfolio of IP rights.

Moreover, if several people working in different offices, irrespective of whether they work for the applicant, the firm or a third party, are involved in the same case or project, a great number of coordination problems and difficulties in getting a clear overview will arise, since the paper files will be spread and copied in the various offices. A great deal of administrative work is required to keep these files and the copies made thereof updated and coherent. On the one hand, this work demands a great amount of time and is therefore very expensive and, on the other, many new sources of errors are introduced.

Yet another problem is that paper-based multi-party communication is complicated. Many copies must be distributed to a number of receivers who in their turn must send their answers to many different receivers. The pile of papers which is to be sorted and classified grows as the communication progresses.

In addition, there is a considerable delay if the firm and the applicant send paper documents to each other and this delay makes the cases extremely time-consuming (it may take up to four days to get an answer to a simple question), at the same time as it renders the coordination of the multi-party communication difficult. The multi-party communication is particularly difficult if one of the parties is in a place which causes a longer delay than that of the other parties. This party will always be one step behind the others and his contributions may sometimes be out of date or arrive too late.

The handling of the mail often contributes to a great extent to the delay and is not always reliable, which is crucial to this type of communication.

Yet another problem of paper-based multi-party communication is that the updating of the case demands a great deal of administration since new contributions are constantly being sent by the parties with different delays. The question is how these contributions are to be classified and who is to make the decisions or take responsibility for this.

In addition, one of the communication parties may sometimes be in another place or even on the move, and in that case it may be hard to get in touch with this person to deliver urgent information of sensitive kind and he may then miss the opportunity to read the information in time. A party who is in a place other than that of his version of the file does not have access to all the information contained therein and he may be forced to wait until the required information can be sent to him or until he gets back to his office.

Nor can the sender of the communication be sure that the information has reached the addressee without additional communication, which once again can be time-consuming and expensive.

To a certain extent, use of facsimile services may contribute to solving the problem of time-consuming postal service, but it also leads to new security problems. As an example, a fax may end up with someone other than the intended receiver if the wrong number was dialled, resulting in the information being exposed to the wrong receiver, and also a fax machine may easily be tapped. Consequently, this technique cannot be used to solve the above-mentioned problems.

Nor does a communication system based on electronic mail solve the above-mentioned problems, since it is difficult to provide a high security level in such a system.

Moreover, the use of electronic mail easily invites to an unstructured exchange of information, and case-specific information easily gets mixed up with other information and information about two cases may also get mixed up.

This further increases the problems of updating, coordination and of getting an overview.

A communication system similar to modern web-based bank transaction systems is too limited as concerns the communication alternatives. The communication mainly consists in a user giving one of several optional commands, for instance indicating that he wants to perform a transaction and then getting the result of the transaction.

This is a one-way communication of performed commands, which is a very rigid form of communication. Therefore, this technique cannot be used to solve the above-mentioned problems either.

In other fields, attempts have been made to make things easier for clients who are often on the move. Many banks offer the possibility of sending commands via the Internet. A bank transaction system must, however, be considered as a way of replacing a bank clerk. Thus, the transactions are not carried out by the bank clerk but are performed directly by the client in the database.

Summary of the Invention The object of the invention is, on the one hand, to provide an improved system for handling information between a firm of consultants, such as an intellectual property firm, and its contacts in relation to the state of the art and, on the other, to obviate the above-described problems. The system is intended to be a contact surface offering secure communication between the firm and the contact.

This object is achieved by means of a system and a method defined in the characterising parts of the appended independent claims 1 and 12, respectively. Particularly preferred embodiments are described in the dependent claims 2-11.

A number of advantages are achieved by means of such a system, which comprises a contact client unit and a firm client unit, which are arranged to be connected via a network, such as the Internet, to a base unit, and a security system which is arranged between the contact client unit and the base unit to provide a secure connection between them, the base unit having contact-specific case information stored, which is directly modifiable by the firm as well as the contact, and the base unit having a searchable contact-specific database which contains contact-specific information, e. g. intellectual property information. One advantage is that it will be easy, e. g. for a client, to get an overview of his cases, for instance a patent application. Other advantages of such a system is the possibility of saving time as the exchange of communication will be more efficient. A person can, for instance, work with a case independently of whether he has access to his workplace. Furthermore, the administration related to the handling of the information is reduced since the need of making checks will be reduced and the number of letters and postal deliveries will diminish. The security of such a system will also be higher than in prior-art systems. For instance, in previous systems fax messages may easily reach the wrong receiver or simply be sent to the wrong receiver.

One important feature of the system is the security system which is arranged between the contact client unit and the base unit. It prevents unauthorised people from getting access to the base unit and the important information stored in this unit.

According to one embodiment, the secure connection is provided by means of a firewall and/or digital signatures.

Advantageously, the client unit which is used by the firm is arranged on the same side of the security system as the base unit. This means that the firm client unit can be connected directly to the information storage unit of the base unit, without passing any security system.

This makes it easier for the firm to connect to the base unit without lowering the standards of the security level.

The base unit of the system suitably has a discussion forum, in which information is exchangeable in a secure manner between the firm and the contact, and the forum is connectable to the information in the base unit, on the one hand the case information and, on the other, the intellectual property database. The discussion forum is suitably designed so that the contact and the firm, respectively, can follow a discussion with all the contributions in the interface of the respective client units. The discussion can either be chronological or so-called threaded (the answers are connected to the questions). As a result, the firm and the contact will have a simple way of communicating about a case or a specific question. If the contact or the firm only needs a short answer, a great amount of paperwork can be avoided. At the same, documentation is easily created concerning the matters which have been discussed and decided and what has happened in the case. Advantageously, a discussion forum can be connected to the various types of information in the base unit, for instance, to a case, a patent application or a patent specification. As a result, a structure and a division of the information exchanged between the firm and the contact are created.

Advantageously, such a discussion forum can also be used to enable different contacts to communicate with each other. Different persons in a company can, for instance, discuss an application before they make a decision in various matters, such as the wording of the claims in a patent application. Furthermore, there is no need to send or forward a letter to several contacts.

In the database with contact-specific information, such as intellectual property information, it is preferably possible for the parties to enter their own keywords. It is particularly interesting for the parties to be able to enter their own keywords for the contact-specific patent specifications which are stored.

Consequently, possibilities of grouping documents are created other than the traditional classifications of patent specifications. Thus, different patent specifications using different terms for a device, for instance ["BAR" , "STRUT" OR "ROD" ,] can be given a common keyword, such as one of the above-mentioned words, "strut". This will significantly facilitate searches, while making it possible to group documents in a new and contact-friendly manner.

Advantageously, each contact client unit can be given different rights to create, modify or read information in the base unit. In that way, each person in a company can have tailored rights fitted to his personal needs and rights. This makes it possible, for instance, to initiate a discussion on strategy matters at a contact's firm involving managers and give those in charge of development matters the right to discuss the wording of a patent application. In addition, the firm knows who has access to which information, thus increasing security.

The base unit is preferably arranged to automatically send an electronic message to predetermined receivers at the contact's and/or the firm's side in case of a new contribution to the discussion forum. This results in the advantage that both the contact and the firm can be kept informed about the arrival of new information and thus no extra measures have to be taken to ensure that the contact or the firm gets the information.

This means great administrative savings.

Brief Description of the Drawings Below, the invention will be described for the purpose of exemplification by means of an embodiment with reference to the accompanying drawing, in which Fig. 1 schematically shows the structure of the system according to the invention.

Description of a Preferred Embodiment The preferred embodiment of the invention is described by means of an example involving a patent attorney and an applicant for a patent, i. e. the patent attorney's client, who in this case function as the intellectual property firm and the contact, respectively, according to the description above.

It goes without saying that the system is not limited to such use, but can also be used for other intellectual property cases, as in communication between different IP firms, for trademark cases, etc. The embodiment has the form of an extranet, i. e. a web solution where web clients have limited access.

The system comprises a base unit, an IP firm client unit, a contact client unit and a security system. The client units are connected via networks to the base unit.

The security system is arranged between the contact client unit and the base unit.

A system according to that stated above can, as already mentioned, be used between an intellectual property firm and its contacts. An intellectual property firm could, preferably, be a patent attorney or an employee at a patent agency, since such an agency has a high transaction volume of the exchange of information with its contacts. In that case, the contacts are primarily the clients of the agency, but also other IP firms and/or government agencies.

As already mentioned, the system comprises two types of client units, one for the contacts and one for the IP firm itself, i. e. contact client units and IP firm client units. Such a client unit could be a personal computer having some kind of software, for instance a web browser, which is a simple and well-known interface for most people.

The base unit in this system comprises several different parts and can be designed in many different ways.

It suitably contains a storage unit with case information, a database with intellectual property information and a webserver. The case information that is stored in the base unit can be deadlines which have to be kept with government agencies and other parties, the status of a patent application currently in progress, previous correspondence, etc. The intellectual property information that is stored in the database can be lists of goods and services for trademarks, patent specifications, texts of law, etc. The parts of this information which are not of general interest should, however, be contact-specific, so that a client preferably only has access to his own patent specifications, copies of competitors' patent specifications that are being watched or other patent specifications in the contact's technical field or line of business. Since this information is contact-specific, the client quickly gets an overview and immediate access to the documents relating to his own business. The contact does not have to sift out a great amount of irrelevant documents. The IP firm may even be responsible for the selection of the documents provided.

The core of the system is the base unit, in which most information is stored. The stored information has already been described, but will now be further explained. Primarily two types of information are stored: case information and intellectual property information.

The stored case information is preferably pure communication, i. e. letters, questions, reports, agreements and the like. Preferably, most of the communication is electronic, copies of the documents, for instance in Microsoft Word- (. doc), Adobe Acrobat Reader (. pdf) and TIFF-format (. tif) or some other kind of file format, being storable directly in the base unit. Otherwise, equipment is suitably available that can transform paper documents into scanned images or even transform them into text. In a patent application case, there is quite a great deal of correspondence. By means of the invention, this correspondence can instead be transferred to take place within the framework of the system. This creates a structure, since the information will be gathered in one place. To be able to search this information quantity, some kind of indexing tool is suitably provided in the base unit, which can be software, for instance Microsoft Index Server.

The other type of information, i. e. the intellectual property information, differs both as concerns the contents and how it is stored as well as how it is used by the applicant and the patent attorney. This information mainly consists of patent specifications, both those of the client and others selected from the client's sphere of interest, as already mentioned above. The important thing is that the documents should be client-specific so that the system also constitutes a new type of place of assembly for patent specifications, which is different from the search services available, for instance on the Internet, since only the documents that are relevant to the client are provided, preferably arranged in groups.

As already mentioned, it is, preferably, possible for the parties to enter their own keywords for the patent specifications in the system. This permits the IP firm or the client to classify patent specifications according to their

own system.

The base unit comprises computer equipment. In this embodiment, use is made of the operating system Microsoft NT, a trademark registered by Microsoft Corporation. The computer equipment is connected to some form of storage media, such as hard disks, optical storage media or magnetic tapes. The equipment has means for communicating with the surrounding world, such as a modem or network card. The client's interface with the system suitably consists of a thin client, such as a web browser like for instance Microsoft Internet Explorer or Netscape Communicator. Correspondingly, at the IP firm's side there is a [WEBSERVER,] which constitutes a part of the base unit. The webserver is in contact with a file system and a database for storing information. The types of software used are preferably Microsoft SQL Server, Microsoft Site Server, Microsoft Internet Information Server.

Preferably, the base unit consists of two separate units, one being the IP firm's internal case and document handling system and the other being responsible for the communication with the client and the storage of such information. For the second unit to be able to be a separate unit, the contents of the first unit must be mirrored in the second unit. This is suitably performed by means of some form of batch processing and preferably when the unit that communicates with the contact client unit is out of contact with the world outside the security system. The batch transfer suitably takes place at night. As a result, it is possible to physically distinguish the system to which the client has access from those of the IP firm's own systems that are crucial to the business activities, which gives increased security.

In an alternative design of the base unit, the unit that is responsible for the communication with the client is in constant contact with the IP firm's internal case and document handling system. Thus, many of the problems in connection with batch runs are avoided, such as the client and the IP firm not seeing exactly the same information and possible errors when entering new data in a separate base unit. However, the demands placed on the internal security increase and the risk of a loss of data increases in the event of an attack of, for instance, hackers.

Between the contact client unit and the base unit, there is a security system for preventing unauthorised people from connecting to the base unit. There are suitably four different user levels: one public user, who has access to common parts of the system and does not actually have to be inside the security system, one registered user, who is thus registered and has a personal profile, one checked user and finally a privileged user.

The checked and the privileged users are inside the security system. The difference between the checked and the privileged user is their rights to change, create, read or delete different kinds of information in the base unit. These user profiles can suitably be administered by an authorised system administrator by means of Microsoft Site Server.

In the first place, the security system consists of a firewall and, in the second place, of some form of digital identification of the client. To be able to identify and verify the checked and the privileged user, use is suitably made of cookies, passwords via plaintext or a certificate, i. e. a digital signature, with SSL (Secure Socket Layer). These security systems are the basis of the extranet solution, which only allows certain users to reach this web site via a network, such as the Internet.

The use of plaintext means that passwords are transmitted without encryption over the Internet. Preferably, use is made of certificates and SSL verification, which creates satisfactory security and is also platform-independent.

SSL means that an encrypted connection is created between the client and the webserver.

Below follows a description of how a client can work with the system. The client contacts the IP firm because he wants to use this system for handling information. As an alternative, the IP firm may contact the client to offer this solution. The client then suitably receives a password or preferably a certificate, by means of which he gets access to the base unit. The only thing the client needs is a web browser and access to the Internet.

Thus, the system can be reached no matter if the client is in his own office or on the move. The certificate can be distributed either via a CD/disk or via electronic mail. When the client has logged on the system, after having installed the certificate on the contact client unit, his possibilities are controlled by the rights that he has been

given by the IP firm. Within the client's company, a number of different persons can use different clients and have different rights depending, for instance, on their roles in the company.

In the following, various possibilities included in the system will be described. One advantage of the system is that the client can directly enter and make changes in documents, which are stored in the base unit. The client can also enter and make comments on the case information as well as the intellectual property information. Thus, an efficient communication can be created between the IP firm and the client.

As already mentioned, the client can search a client-specific database and the documents in the database can be given their own keywords which are searchable.

The system further comprises a discussion forum, which permits an efficient communication between the IP firm and the client, but also between different persons at the client's or the IP firm's side. Here discussions can be divided in arbitrary manner so as to provide a suitable structure. Suitably, the discussions can be divided into cases, e. g. patent applications. As several persons have access to the discussion, a quick multi-party communication can be achieved and no messages need to be sent on. When a new contribution is made to a discussion, an electronic message can automatically be sent to the addresses linked to the discussion group. It can be sent to the persons who are involved in the discussions, but it can also be sent to somebody else, for instance, a secretary.

In addition, an exchange of documents can take place via the system between the client and the IP firm by the client downloading reports or proposals which have been placed by the IP firm. Then the client has the possibility of entering his comments on these matters in a discussion group.

Furthermore, the IP firm client unit can be provided with some administrative functions which the contact client unit does not have, for instance, to enter a new contact, to enter new cases or to cancel the rights of various contact client units. From a security point of view, it may be an advantage that the client units have different functionality in their structure so that certain functions do not even exist in the contact client unit.

The IP firm works with the system on an IP firm client unit. This client does not necessarily have to pass the security system to have access to the base unit but can, for instance, be in the same local network as the base unit. It has slightly different rights than the contact client unit. The IP firm is, for instance, able to enter a new client, enter a new patent specification, change client information, send new passwords, log activities, analyse the movements of the client in the base unit or receive an electronic order confirmation.

The IP firm can also, for instance, report an Official Action from an Examiner at a government agency and enter the information in the base unit. Cited documents can also be linked to the base unit.

The person skilled in the art will understand that several modifications of the above-described embodiment of the system are feasible within the scope of the invention as defined in the appended claims.

Description Claims

CLAIMS 1. A system for handling information between a firm of consultants and at least one of its contacts, [CHARACTERISED] in that it comprises: a contact client unit and a firm client unit, which are arranged to be connected via a network, such as the Internet, to a base unit, and a security system which is arranged between the contact client unit and the base unit to provide a secure connection between them, the base unit having contact-specific case information stored, which is directly modifiable by the firm as well as the contact, and the base unit having a searchable contact-specific database which contains contact-specific information.

2. A system as claimed in claim 1, wherein the firm client unit is arranged on the same side of the security system as the base unit.

3. A system as claimed in claim 1 or 2, wherein the base unit has a discussion forum, in which information is exchangeable in a secure manner between the firm and the contact, and the forum is connectable to the information in the base unit.

4. A system as claimed in claim 3, in which an exchange of information between different contact client units is feasible via the discussion forum.

5. A system as claimed in any one of the preceding claims, wherein the database has keywords which are enterable and searchable by the firm and/or the contact.

6. A system as claimed in any one of the preceding claims, in which the base unit comprises two information storage units, of which one is a completely or partially mirrored copy of the other, and only the copy being directly accessible for the contact client unit.

7. A system as claimed in claim 6, in which the information storage units have an interruptable connection between each other, which is interrupted when the client unit is connected to the base unit.

8. A system as claimed in any one of the preceding claims, in which at least some contact client units are given different rights to create, modify or read information in the base unit.

9. A system as claimed in any one of the preceding claims, wherein the security system comprises a firewall.

10. A system as claimed in any one of the preceding claims, wherein the security system comprises use of a digital signature, such as a certificate.

11. A system as claimed in any one of claims 3-10, in which the base unit is arranged to automatically send an electronic message to predetermined receivers at the contact's and/or the firm's side in case of a new contribution to the discussion forum.

12. A method for handling information between a firm of consultants and at least one of its contacts, [C H A R A C T E R I S E D] by the steps of: a contact client unit and a firm client unit connecting at the same time or separately via a network, such as the Internet, to a base unit, a security system which is arranged between the contact client unit and the base unit providing a secure connection between them, the firm and/or the contact reading, creating or directly modifying contact-specific case information, which is stored in the base unit, and the contact and/or the firm searching a contact-specific database, which contains contact-specific information, which is stored in the base unit.

Description Claims
